

REMARKS

I. Status of the Application

Claims 17-36 are pending in this application. In the March 25, 2008 office action, the Examiner:

- A. Rejected claims 17, 24 and 29 under 35 U.S.C. § 112, first paragraph for failing to comply with the enablement requirement;
- B. Rejected claims 17-22, 24-26, 29-34 and 36 under 35 U.S.C. § 103(a) as being unpatentable over US 5,745,468 to Nakano (hereinafter “Nakano”) in view of US 6,236,696 to Aoki et al. (hereinafter “Aoki”);
- C. Rejected claims 23, 27-28 and 35 under 35 U.S.C. § 103(a) as being unpatentable over Nakano in view of Aoki and further in view of US 6,307,906 to Tanji et al.;
- D. Objected to the Drawings because Fig. 1 does not contain word labels; and
- E. Objected to the Abstract because of language; and
- F. Objected to the disclosure for informalities.

In this response, applicants have amended Fig. 1 and the specification, including the abstract of the disclosure to address the examiner’s objections. Applicants have also amended claims 17, 18, 24, 25 and 29.

II. The Rejection of Claims 17, 24 and 29 Under 35 U.S.C. § 112, First Paragraph, Should be Withdrawn

In the March 25, 2008 Office action, the examiner rejected claims 17, 24 and 29 Under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement.

In this response, claims 17, 24 and 29 have been amended to further clarify and define the claimed invention.

Amended claims 17, 24 and 29 specify a way of detecting a first and a second phase difference. Additionally, the working principle of the first and second phase clock loop is defined. With regard to the third clock generator it is specified that a controller comprising a phase pump and a loop filter is used for controlling the third clock generator based on an average of the first phase difference which is detected by the first phase clock loop and the second phase difference which is obtained by the second phase clock loop. It is respectfully submitted that one of skill in the art would clearly understand how an average of two signals is made. Additionally, the interaction of a phase pump and clock generator dependent on the average of the two phase differences is sufficiently detailed in the specification to enable one of skill in the art to make and use the claimed invention. Therefore, in view of the amendments to claims 17, 24 and 29, it is respectfully submitted that the examiner's rejection of claims 17, 24 and 29 under 35 U.S.C. § 112, first paragraph, is now moot, and should be withdrawn.

III. The Rejection of Independent Claims 17, 24 and 29 Under 35 U.S.C. § 103(a) Should be Withdrawn

In the March 25, 2008 office action, the Examiner rejected claims 17, 24 and 29 under 35 U.S.C. § 103(a) as being unpatentable over Nakano in view of Aoki. In this response, Applicant respectfully traverses the Examiner's rejection of claims 17, 24 and 29 under 35 U.S.C. § 103(a).

The Examiner's rationale for a finding of obviousness in the March 25, 2008 Office action is not specifically stated in the context of the examples of MPEP § 2143. However,

Applicant notes that pursuant to MPEP 2143, “the key to supporting any rejection under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious.” Furthermore, in order to establish a *prima facie* case of obviousness, three basic criteria should be met as set forth in MPEP § 2143.01-2143.03. First, there must be some suggestion or motivation to modify the references or combine reference teachings. MPEP § 2143.01. Second, there must be a reasonable expectation of success. MPEP § 2143.02. Third, all claim limitations must be considered. MPEP § 2143.03.

A. The References Do Not Teach or Suggest All Claim Limitations

In the present case, it is respectfully submitted that neither Nakano nor Aoki teach or suggest all the limitations of amended claims 17, 24 and 29. One example of a limitation of independent claim 29 that is not taught or suggested by the cited references is that of “generating the extracted clock signal and controlling the extracted clock signal based on an average of the first phase difference and the second phase difference using a phase pump and a loop filter.” Similar limitations with respect to an apparatus are also found in independent claims 17 and 24.

1. Nakano

In the March 25, 2008 Office action, the examiner correctly admits that Nakano does not specify the generation of a clock signal based on an average of a first phase difference and a second phase difference (e.g. see p. 13 of the March 25, 2008 Office action)..

2. Aoki

At page 13 of the March 25, 2008 Office action, the examiner referenced figure 25 of Aoki, reference character 1910, and stated that Aoki discloses “generating the extracted clock signal based on an average of a plurality of first phase differences and second phase differences.”

What Aoki shows in figure 25 is a duty judging circuit which generates duty information 109. This duty information 109 is used by a data selector 9 to judge an optimal phase suitable for data decision (see column 4, lines 51 to 55). It does not however specify or generate a clock signal 106. The clock signal 106 is selected by the clock selector 5 which has no interaction with the duty searching circuit 8 (see figure 2 and column 4, lines 59 to 62).

In addition to the foregoing, the duty judging circuit 8 in Aoki does not use a first phase difference and a second phase difference for calculating the duty cycle 109. As can be seen from figure 25 of Aoki, the absolute phase of a falling edge and the absolute phase of a rising edge are forwarded to a subtracter (reference signs 1904, 1905, 1908 or 1906, 1907, 1909). The subtracters 1908, 1909 calculate a duration of a logical high or logical low level. This does not correspond to “an average of the first phase difference and the second phase difference” as set forth in independent claims 17, 24 and 29, which is related to the phase difference between a clock signal and a periodic data signal.

Accordingly, as set forth above, the device disclosed in Aoki is not capable of, nor does Aoki disclose “generating the extracted clock signal and controlling the extracted clock signal based on an average of the first phase difference and the second phase difference using a phase pump and a loop filter” as set forth in amended claim 29. In addition, Aoki does not disclose the similar limitations found in each of amended claim 17 and 24. Therefore, for at least this reason it is respectfully submitted that a *prima facie* case of obviousness does not exist and the 35 U.S.C. 103(a) rejection of claims 17, 24 and 29 should be withdrawn.

B. There is no Motivation to Combine Nakano and Aoki

The mere fact that references can be combined or modified does not render the resultant combination obvious unless “there is some teaching, suggestion or motivation” to combine the references. MPEP § 2143.01. Applicants respectfully submit that, while Nakano and Aoki could be combined, the examiner has not established a teaching, suggestion or motivation for combining the references. Furthermore, the examiner has not established that the proposed resultant combination would have been predictable to one of ordinary skill in the art, as required by MPEP § 2143.01. As set forth in MPEP § 2143.01, “rejections based on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with rational underpinning to support the legal conclusion of obviousness.” Furthermore, “the key to supporting any rejection under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious ... [and] the analysis supporting the rejection under 35 U.S.C. § 103 should be made explicit.” MPEP § 2143.

At page 8 of the March 25, 2008 Office action, the examiner provides only the following rationale for the combination of Nakano and Aoki: “it would have been obvious to one of ordinary skill in the art ... to modify the invention of Nakano as taught by Aoki and generate the extracted clock signal based on an average of the first phase difference and the second phase difference such that the probability of distribution functions of the rising edges and falling edges of the periodic data signal are individually averaged, thus allowing more rapid and accurate data recovery.” Applicants respectfully submit that this rationale provided by the examiner for combining Nakano and Aoki is nothing more than a conclusory statement which is primarily a restatement of applicant’s originally filed claim language. Is the examiner’s position that it would be obvious to combine Nakano and Aoki to result in more rapid and accurate data

recovery? If so, the examiner has not attempted to explain why the arrangement of Nakano is somehow deficient such that Aoki would “result in more rapid and accurate data recovery”. Should the examiner continue to reject claims 17, 24 and 29, applicant respectfully submits that a “*clear articulation*” of why the combination of Nakano and Aoki would be obvious should be provided along with an *explicit* analysis.

For at least the reason set forth above, it is respectfully submitted that the examiner has not made a prima facie case of obviousness. Accordingly, it is respectfully submitted that the examiner’s rejection of claims 17, 24 and 29 under 35 U.S.C. § 103(a) should be withdrawn.

C. A Reasonable Expectation of Success Has Not Been Established

In order to establish a prima facie case of obviousness, the examiner must at least articulate a finding that there was reasonable expectation of success. See MPEP § 2143(G) and MPEP § 2143.02. However, in the March 25, 2008 office action, the examiner did not even attempt to establish such a finding of a reasonable expectation of success. Therefore, for at least this reason, the examiner has not made a prima facie case of obviousness, and the examiner’s rejection of claims 17, 24 and 29 under 35 U.S.C. § 103(a) should be withdrawn.

IV. The Rejection of Dependent Claims 18-23, 25-28 and 30-36 Should be Withdrawn

Dependent claims 18-23, 25-28 and 30-36 all depend from and incorporate all the limitations of one of independent claim 17, 24 or 29. Moreover, each of these dependent claims includes additional novel and non-obvious limitations. Accordingly, it is respectfully submitted that dependent claims 18-23, 25-28 and 30-36 are also allowable for at least the same reasons

that independent claims 17, 24 and 29 are allowable, as well as additional reasons. Therefore, the examiner's rejection of claims 18-23, 25-28 and 30-36 should be withdrawn.

V. Conclusion

For all of the foregoing reasons, it is respectfully submitted the applicant has made a patentable contribution to the art. Favorable reconsideration and allowance of this application is therefore respectfully requested.

In the event applicant has inadvertently overlooked the need for an extension of time or payment of an additional fee, the applicant conditionally petitions therefore, and authorizes any fee deficiency to be charged to deposit account 13-0014.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Russ Fowler", with a long horizontal flourish extending to the right.

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